

REMARKS

Applicant appreciates the Examiner's thorough consideration provided the present application. Claims 1-15 and 18-21 are now present in the application. Claims 1, 8, 13 and 20 have been amended. Claims 1, 8, 13 and 20 are independent. Reconsideration of this application is respectfully requested.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-15 and 18-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gurney, "An Introduction to Neural Networks", in view of Hatayama, U.S. Patent No. 6,219,657. This rejection is respectfully traversed.

Independent claims 1, 8, 13 and 20 have been amended to recite a combination of elements including "each of the neurons ... has a plurality of modalities different from one another" and "the plurality of modalities of the neurons including auditory modality and visual modality so that a plurality of different input vectors of auditory modality and visual modality can be handled simultaneously and independently by the neurons." Applicant respectfully submits that the above combination of elements as set forth in independent claims 1, 8, 13 and 20 is not disclosed nor suggested by the references relied on by the Examiner.

Applicant respectfully submits that, in the present invention, the neurons in the neural network unit have a plurality of modalities different from each other. The plurality of modalities of the neurons including auditory modality and visual modality so that a plurality of different input vectors of auditory modality and visual modality can be handled simultaneously and independently by the neurons. Therefore, the neurons can handle a plurality of different input

vectors each having a particular, different length, such as auditory data and visual data. In other words, according to the present invention, a plurality of different data such as the five senses of a human being (e.g., auditory sense, visual sense of a human being, etc.) can be inputted together to this neural network at the same time and processed by interconnecting the neurons in this system.

The Examiner has correctly acknowledged that Gurney fails to teach “the plurality of modalities of the neurons including auditory modality and visual modality so that the neurons handle a plurality of different input vectors of auditory modality and visual modality” as recited in claims 1, 8, 13 and 20. However, the Examiner turned to rely on Hatayama and alleged that Hatayama cures the deficiencies of Gurney. Applicant respectfully disagrees.

In particular, although Hatayama discloses that the user’s information is collected by sensors such as a camera 1 or a microphone 2, such information is not directly input to the behavior determination block 53. More specifically, Hatayama in FIG. 5 discloses that the user’s information is first processed by the input detection information processing block 51 (see col. 5, lines 15-22), and the processed information is subsequently sent to the behavior determination block 53 as a single vector, not a plurality of vectors as recited in claims 1, 8, 13 and 20. As shown in FIG. 8 of Hatayama, in the behavior determination block 53, the user’s information is first processed to form a single vector (S201), and the processed information is subsequently sent to the neural network emotion state input step (S202)(see col. 5, lines 43-48).

In addition, Hatayama nowhere discloses that the neurons in the neutral network unit have a plurality of modalities different from one another or that the plurality of modalities of the neurons including auditory modality and visual modality as recited in claims 1, 8, 13 and 20.

Hatayama also fails to teach “the plurality of modalities of the neurons including auditory modality and visual modality so that a plurality of different input vectors of auditory modality and visual modality can be handled simultaneously and independently by the neurons” as recited in amended claims 1, 8, 13 and 20.

Accordingly, neither of the references utilized by the Examiner individually or in combination teaches or suggests the limitations of independent claims 1, 8, 13 and 20 or their dependent claims. Therefore, Applicant respectfully submits that claims 1, 8, 13 and 20 and their dependent claims clearly define over the teachings of the references relied on by the Examiner. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. § 103 are respectfully requested.

CONCLUSION

Since the remaining patents cited by the Examiner have not been utilized to reject the claims, but merely to show the state of the prior art, no further comments are necessary with respect thereto.

It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

In the event there are any matters remaining in this application, the Examiner is invited to contact the undersigned at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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